

SOCIAL INITIATIVES

Training Programs

Design Innovation Awareness (DIA) Program

Non-Student Group: 04 Faculty Members from Schools, Entrepreneurs, NGO on January 24, 2019.

School Students: 250 students of various schools of Roorkee including ABN, ASASVM, St. Ann's, Montfort, KV, GPS, DPS, APS and SPS.

B. Tech. Students: 500 UG students of various institutes including GNIOT (Greater Noida), GEHU (Dehradun), DTC (Greater Noida) and COER (Roorkee) have been trained under DIC flagship workshop "Innovative Design: Ideation to Realization" in association with Tinkering Lab, IIT Roorkee.

Reverse Engineering: Participants: 26 (January 19, 2019).



COMAL Program

In this scheme, 2 projects are in progress –

1. Briquette Machine

A DIC team is improving the design of a Briquette Machine proposed by the Sri Arya Trust, Uttarkashi, Uttarakhand.

Associated Faculty: Prof. Inderdeep Singh and Prof. Ravi Kumar, MIED



2. Promotion of Village Homes in Remote Locations

To develop innovative facilities at villages in remote locations of Himalayan regions.

Proposal By: VilloTale, a start-up in Uttarakhand

Status: The Proposal is under Consideration by DIC

MISCELLANEOUS



A joint review meeting of DIC IIT Roorkee and its spokes with Mr. Nitish Kumar, Consultant, MHRD, was held on December 12, 2018. The meeting was chaired by Prof. M. Parida, Dean SRIC, IIT Roorkee.

INTERNSHIP

Winter

Internships Offered: 14
Interns from following Institutes: IIT Roorkee, NIT Mizoram, NIT Uttarakhand, AMU (Aligarh), NIFD (Delhi), and KEC (Katihar).

Summer

DIC has received overwhelming responses from across the nation for Summer Internship. During May – July, 2019. DIC will offer 15 summer internships for 2 months after a rigorous scrutiny.

FUTURE EVENTS

- Summer Internship Program 2019
- Himalayan Summit 2019
- DIC U2U Program
- Workshops
- DIA Program

NEWSLETTER TEAM

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नवोन्मेष

NEWSLETTER



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MESSAGES



"DIC has potential to develop new technologies leveraging research carried out at IIT Roorkee. It can provide platform to engage students, faculty members from IIT Roorkee and also anyone from outside campus interested in developing new product."

Prof. Manoranjan Parida, Dean SRIC, IIT Roorkee



"At IIT Roorkee, DIC is working actively for achieving the objectives of the 'National Initiative on Design Innovation' by organising workshops, developing new products and through some social initiatives like 'DIA' and 'COMAL' programs apart from initiating a few projects aimed to address issues of the Himalayan region. The increasing participation and interests of people across the country in our activities is only making us more responsible. The नवोन्मेष Newsletter is an attempt to reach out to more enthusiasts, even if they are not connected electronically, with briefs of the on-going and upcoming activities of DIC IIT Roorkee."

Prof. Apurbba Kumar Sharma, Coordinator, DIC, IIT Roorkee

DIC, IIT ROORKEE

DIC, IIT Roorkee, named 'नवोन्मेष', was established in the year 2018, is one of the youngest DICs in the country. It has three other institutes as partners (Spokes) –

- CoT, GBPUA&T, Pantnagar, UK
- IIM, Kashipur, UK
- NIT UK, Srinagar, UK



HIGHLIGHTS

- May 17, 2018: the MHRD approved DIC at IIT Roorkee (IITR)
- DIC, IITR was named 'नवोन्मेष'
- September 17, 2018: DIC, IITR was launched
- Four research fellows joined with DIC PhD fellowships
- Six DIC elective courses upcoming
- DIC is proposing 2 masters programs
- Created Awareness among 250 school students
- Trained 500 UG students
- DIC IITR was visited by representatives of various agencies

RESEARCH

Ongoing

- Crop Harvester for Terrains
- Development of Green Furniture Based on Forest Waste Materials
- Assistive Device for Differently-abled Person (*Faulty Investigator: Prof. Inderdeep Singh, MIED*)
- High Yield Loom Design for Uttarakhand Local Weavers (*Faculty Investigator: Prof. Rajat Agarwal, DOMS*)
- Inclusive Education Design Kit (*Faculty Investigator: Prof. Gaurav Raheja, APD*)

DIC PhD Fellows

- Mr. Omkar Pramod Khadamkar (Prof. Gaurav Raheja, CTRANS)
- Mr. Pramod Kumar (Prof. Sanjeev K. Manhas and Prof. B. P. Das, ECED)
- Mr. Ashutosh Samadhiya (Prof. Rajat Agarwal, DOMS)
- Mr. Tejas Pramod Naik (Prof. Apurbba Kumar Sharma and Prof. Inderdeep Singh, MIED)

PROJECTS

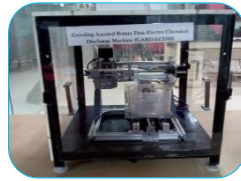
Completed

1. Development of Grinding assisted rotary disc electrochemical discharge machining facility for multiple operations. (*Tarlochan Singh and Prof. Akshay Dvivedi MIED*)
2. Adaptive Feedback Controlled Hydro-Dissection Device (*Rajendra Kumar Arya and Prof. Akshay Dvivedi MIED*)

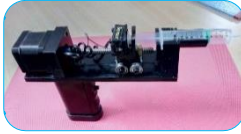
Ongoing

1. Design and Implementation of Quasi r-Source μ -Inverter for Plug and Play PV Module. (*Raghu Selvaraj, Karthik Desingu and Prof. Thanga Raj Chelliah WRDM*)
2. Modeling and Fabrication of Proton Exchange Membrane Fuel Cell (PEMFC) (*Mayank Singh Jadaun, DPSE and Tushar Roy and Prof. Kaushik Pal MIED*)
3. Development of Modular Accessory for mobility enhancement of manual wheelchairs (*Aditya Peshin and Prof. Akshay Dvivedi MIED*)
4. A kit for rapid quantitation, titration and detection of chikungunya virus from agro-industry waste (*Neetu, Vedita Anand Singh, Prof. Shailly Tomar and Prof. Pravindra Kumar Dept. of Biotechnology*)
5. Investigation of a Himalayan pine species as a potential drug in the treatment of Swine flu (H5N1) (*Naveen Kushwaha, Gaurav Kumar Silori and Prof. Vimal Kumar, Chemical Engg*)
6. Low Cost Multifunctional Hanging Cell Culture Insert (*Vinay Kumar and Prof. P. Gopinath, Dept. of Biotechnology*)

PRODUCTS



Grinding assisted rotary disc ECDM



Hydro-Dissection Device



4-way valve

WORKSHOPS

International (Indo-German Workshop)

Theme: Mobility Design, Date: March 1–2, 2019
Resource Persons: Prof. Peter Eckart (Designer and Vice-President) Univ. of Art & Design, Offenbach, Germany.

Workshop Coordinator: Prof. Gaurav Raheja (APD, IITR)

Participations: 37 (Indian: 31 and 6 German)



National

Theme: Design Thinking, Date: March 25–26, 2019
Resource Persons: Prof. J. Ramkumar (Professor, Dept. of Mechanical Engg. and Design Program, IIT Kanpur).
Workshop Coordinator: Prof. Akshay Dvivedi (MIED)
Participations: 52 (12 Institutes & 4 Schools: 8 states)



COURSES

Six electives courses are proposed –

- Aesthetics and Ergonomics
- Design Thinking (Prof. Sonal Atreya, APD)
- Design for Society (Prof. Gaurav Raheja, APD)
- Computer Aided Product Design (Prof. Abhinash K. Swain, MIED)
- Innovative Business Models (Prof. Rajat Agarwal, DOMS)
- Materials and Processes for Product development (Prof. Inderdeep Singh, MIED)

PROGRAMS

Two masters programs are proposed –

- Master in Industrial Design (M. Des.)
- Master in Innovation Management (MIM)

VISITS

- **Dr. S. S. Sandhu** (Additional Secretary, MHRD) visited DIC, IIT Roorkee on Dec 04, 2018.
- **BOSCH Team:** Mr. Prashanth A. (Senior GM, Mobility Solution) visited DIC with a team of three members on January 18, 2019.
- **Mr. Ajay Prakash Sawhney** (Secretary, MEITY) visited DIC on Feb 02, 2019.
- **Prof. Uwe W Schulz** (Head of International Relations, Head of the Bachelor's Program in Energy Systems Engineering, Lucerne School of Engg. and Architecture, Switzerland) visited DIC on February 25, 2019.
- **ISRO Team:** Dr. P. V. Venkitakrishnan (Director, CBPO), Mr. M.A. Paul (Associate Director) and Mr. A.C. Mathur (Group Director, retired) visited DIC on March 15, 2019.



Addl. Secy., MHRD



BOSCH Team



Secretary, MEITY



Prof. Schulz



ISRO Team